EPA

ACKNOWLEDGEMENT OF NOTIFICATION OF HAZARDOUS WASTE ACTIVITY
(VERIFICATION)

This is to acknowledge that you have filed a Notification of Hazardous Waste Activity for the installation located at the address shown in the box below to comply with Section 3010 of the Resource Conservation and Recovery Act *(RCRA)*. Your EPA Identification Number for that installation appears in the box below. The EPA Identification Number must be included on all shipping manifests for transporting hazardous wastes; on all Annual Reports that generators of hazardous waste, and owners and operators of hazardous waste treatment, storage and disposal facilities must file with EPA; on all applications for a Federal Hazardous Waste Permit; and other hazardous waste management reports and documents required under Subtitle C of RCRA.

EPA I.D. NUMBER ➤ • DC8 21 002 1004

Mr. Peter Larson, Environ Coord
NACSA - E- Ft McNair
Bldg 42
Washington, DC 20319 - 5050 Acct #9

INSTALLATION ADDRESS ➤ Fort Lesley J. McNair MDW US Army
Washington, DC 20319

EPA Form 8700-12B (4-80)

GSA No. 0246-EPA-01

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTALLATION'S EPA I.D. NO.

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

INSTRUCTIONS: If you received a pr label, affix it in the space at left. If an information on the label is incorrect, dra through it and supply the correct info in the appropriate section below. If the complete and correct, leave Items I, II, below blank. If you did not receive a pre label, complete all items. "Installation" n single site where hazardous waste is gen treated, stored and/or disposed of, or a porter's principal place of business. Pleas to the INSTRUCTIONS FOR FILING NO CATION before completing this form information requested herein is required b *(Section 3010 of the Resource Conservatio Recovery Act).*

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: S F DC8210021004 T/A 1 C

APPROVED:

DATE RECEIVED (yr., mo., & day): 850409

I. NAME OF INSTALLATION

FORT LESLEY J MCNAIR MDW US ARMY

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: C 3

CITY OR TOWN: C 4 WASHINGTON — ST.: DC — ZIP CODE: 20319

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: C 5

CITY OR TOWN: C 6 WASHINGTON — ST.: DC — ZIP CODE: 20319

wash
001

IV. INSTALLATION CONTACT

NAME AND TITLE *(last, first, & job title)*: C 2 LARSON PETER ENVIRON COORDINAT

PHONE NO. *(area code & no.)*: 202-475-0641

V. OWNERSHIP

DETACH

A. NAME OF INSTALLATION'S LEGAL OWNER: C 8 US ARMY MILITARY DISTRICT OF WASHINGTON

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*

F = FEDERAL
M = NON-FEDERAL

F

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] A. GENERATION
- [ ] B. TRANSPORTATION *(complete item VII)*
- [ ] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [ ] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify)*:

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

EPA Form 8700-12 (6-80)

CONTINUE ON REVERSE

I.D. – FOR OFFICIAL USE ONLY

S														T/A	C
W															1
1	2												13	14	15

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

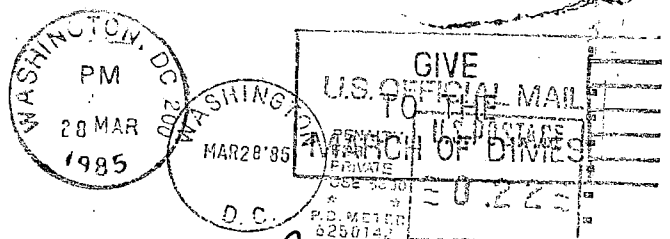
- ☐ 1. IGNITABLE (D001)
- ☐ 2. CORROSIVE (D002)
- ☐ 3. REACTIVE (D003)
- ☒ 4. TOXIC (D000)

X. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and al attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for sut mitting false information, including the possibility of fine and imprisonment.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
	PETER J. LARSON ENVIRONMENTAL COORDINATOR	4/2/8

MILITARY DISTRICT OF WASH.
NACSA-E
FT. McNAIR
WASH DC 20319-5050
ACCT. # 9



Rose Nino

US EPA
REGION III
ATTN. 3HW32
6TH & WALNUT ST.
PHILADELPHIA, PA. 19106

ROUTING AND TRANSMITTAL SLIP

Date 3/16/9

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	D
1. ~~R. Greaves (3HW60)~~		
2. Gal		
3.		
4.		
5.		

	Action		File		Note and Return
	Approval		For Clearance		Per Conversation
	As Requested		For Correction		Prepare Reply
	Circulate		For Your Information		See Me
	Comment		Investigate		Signature
	Coordination		Justify		

REMARKS

DO NOT use this form as a RECORD of approvals, concurrences, disposals clearances, and similar actions

FROM: (Name, org. symbol, Agency/Post)	Room No.—Bldg.
Lois	Phone No.

5041-102

OPTIONAL FORM 41 (Rev. 7-76)
Prescribed by GSA
FPMR (41 CFR) 101-11.206

* U.S. GPO: 1988 — 201-759

Fort McNair PCB A
Addendum 2/21/90

To: J. Allen
TSCA Enforcement Section

As a result of the 10/6/89 PCB Inspection @ Fort McNair, the enclosed data has been submitted by Fort McNair. Some of this data was included in the inspection report previously submitted to Region III. No significant levels of PCB were detected by analyses according to this data. Due to other findings, however, this data may be of interest to the RCRA, Air groups as well as TSCA.

C. Hufnagel, AOS
2/22/90

DRAFT

HSHB-ME-SG November 1989

MEMORANDUM FOR: Commander, Military District of Washington, ATTN: ANSU, Washington, DC 20319-5050

SUBJECT: Ground-water Quality Consultation No. 38-26-0358-90, Investigation of Subsurface Contamination with Petroleum Products at the National Defense University Library Construction Site, Fort McNair, Washington D.C., 26 October 1989

1. REFERENCE. FONECON between Ms Edna Barker, Fort McNair and Mr. Gary Nemeth, Waste Disposal Engineering Division (WDED), U.S. Army Environmental Hygiene Agency (USAEHA), 25 October 1989, National Defense University Library Construction Site, with Petroleum Products at the McNair, Washington D.C.

2. AUTHORITY. FONECON between LTC Stephen Etsell, Assistant Deputy Chief of Staff for Engineering and Housing, Fort McNair, and LTC Paul Theis, USAF, Waste Disposal Engineering Division, U.S. Army Environmental Hygiene Agency (USAEHA), 26 October 1989, subject: Request for Emergency Field Services at the National Defense University (NDU) Library Construction Site, Fort McNair, Washington D.C.

3. PURPOSE. The purpose of this consultation was to investigate the subsurface contamination with petroleum products in terms of worker health and safety, and environmental impact.

4. GENERAL.

a. Background. On 25 October 1989, during drilling operations to install concrete pilings for the future NDU Library (Figure 1), a strong petroleum odor was identified in drill cuttings encountered at approximately 25 feet from ground surface. The construction site is on fill material placed in the James Creek as early as 1903 with the excavation of soil at Building 39. USAEHA was contacted late on 25 October 1989 by Ms Edna Barker, Fort McNair. Ms Barker was advised to cease drilling operations in the contaminated area until a site inspection could be made (reference). LTC Etsell requested USAEHA Field Services to have the site investigated on the morning of 26 October 1989 (paragraph 2). Mr. Wayne Fox arrived at the Construction Site in the afternoon of 26 October 1989 to assess the situation and collect soil samples.

b. Personnel Contacted.

(1) LTC Stephen Etsell, Assistant Deputy Chief of Staff for Engineering and Housing, Fort McNair.

(2) Ms Edna Barber, Environmental Manager, Fort McNair.

(3) MAJ Joseph Schroeder, NDU Library Construction Project Officer, Baltimore District, Corps of Engineers.

5. FINDINGS AND DISCUSSION.

a. Initial Site Investigation. At the time of the site investigation, three boreholes were drilled to install concrete pilings in the vicinity of DH-10 (Figure 2). During the drilling operation, drill cuttings were inspected for petroleum product contamination. The drill cuttings were also checked for the presence of soil gas with the HNU Photoionizer. An instrument profile of the HNU Photoionizer is provided in Enclosure 1. A dark brown silty sand with organic matter was encountered at approximately 25 feet and ranged from about 3 to 5 feet in thickness. The soil smelled like weathered, used motor oil; however, the petroleum product appeared to be completely adsorbed by the soil matrix. At the third borehole, decomposing leaves, [illegible] No free petroleum product was observed in the contaminated soil and no sheen was present on the soil. The HNU Photoionizer had readings ranging from 0 to 5 ppm with warm (75 degrees F) and windless weather conditions. The petroleum product was not recorded in foundation boreholes (Enclosure 2) which were drilled on 18 August 1984, although the brown silt and organic matter at the 27.5 to 37.5 horizon in borehole DH-10 may represent the contaminated zone. Borehole DH-9, which is the closest borehole to DH-10, does not have a soil horizon which has the physical properties of the observed contaminated zone.

b. Chemical Analyses of Soil. Two soil samples of the contaminated soil were collected from separate boreholes at a depth of 25 to 30 feet. These samples were placed in glass containers (1-quart and 40-mL) with teflon lids. The sample containers were then placed in an ice chest and kept cool. The results of chemical analyses for two soil samples are provided in Enclosure 3. The soil samples contain 0.10 to 0.12 percent total non volatile hydrocarbons, which are chemically and physically similar to used motor oil.

6. CONCLUSIONS.

a. Soil, apparently contaminated with petroleum products, is present at approximately 25 to 30 feet below ground level.

b. Free petroleum product is not present in the subsurface at this construction site.

c. No worker health or safety problems are apparent based on the small amount of contaminated soil brought to the surface during drilling and the low soil gas readings from the HNU Photoionizer.

adsorbed to the soil and do not represent a threat to the environment hazard.

e. No drinking water supply wells are present in the Fort McNair Area.

7. RECOMMENDATIONS.

a. Environmental contamination found in the soil should be discussed with the DC Department of Regulatory Affairs.

b. No remedial action is recommended based on the type of organic compounds found in and adsorbed to the soil.

8. TECHNICAL ASSISTANCE. Questions concerning this consultation may be referred to Mr. Wayne Fox or Mr. John Bauer, this Agency, AUTOVON 584-2024 or commercial (301) 671-2024.

FOR THE COMMANDER:

3 Encl

PAUL R. THIES
LTC, MS
Chief, Waste Disposal
Engineering Division

CF:
HQDA (ENVR-E)
DA, USAEHSC, ATTN: CEHSC-F
HQDA (SGPS-PSP-E) (w/o encl)
Cdr, HSC, ATTN: HSCL-P
Cdr, Fort McNair ATTN: ANENE (4 cy)
Cdr, WRAMC, ATTN: PVNTMED Svc (2 cy)
Cdr, USATHAMA, ATTN: CETHA-TE-E
Cdr, USATHAMA, ATTN: CETHA-RM-IM(TIC)
Cdr, USATHAMA, ATTN: CETHA-IR-S
Cdr, USAEHA-N

OCT 2 4 1989

(Canal St & D St) Fort Leslie J. McNair Mdel US Army
4th & P St. S.W
Washington, D.C. 20319

A change in the status has been made by Mark Hughes, Environmental Chemist, with the District of Columbia. This was due to a cleanup in HWDMS in preparation for RCRIS.

The status has chg'd

From Gen 1 to 2

See attached letter

C9
10/12/89

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS
HOUSING AND ENVIRONMENTAL REGULATION ADMINISTRATION
P.O. BOX 37200
WASHINGTON, D.C. 20013-7200

Ms. Shirley Bulkin
RCRA Support Section 3HW34
841 Chestnut Building
Philadelphia, PA 19107

Dear Ms. Bulkin:

Enclosed you will find the final cleaned HWDMS notifier file for the District of Columbia. I took the extra effort of phoning or inspecting generators who were recent first time notifiers or whose information I found questionable. I feel very confident in this data and am sure it represents the truest picture of our universe that is possible.

In other developments, we have added two blocks to the 8700-12 Notification form to help in classifying the category into which generators may be placed. We added the less than 50 Kg/mo. designation because that is the delineation point in the District. I have enclosed a copy for your information.

Sincerely,

Mark W. Hughes
Environmental Chemist

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region III - 6th & Walnut Sts.

Philadelphia, Pa 19106

SUBJECT: RCRA Inspection Fort McNair Army Base DC8210021004 **DATE:** 10-1-85

FROM: Joseph Kotlinski, Environmental Engineer JK
RCRA Enforcement Section (3HW11)

TO: File

Thru: Peter W. Schaul, Chief
RCRA Enforcement Section (3HW11)

BASED UPON REVIEW OF THE RCRA INSPECTION REPORT FOR THE FACILITY REFERENCED ABOVE, I HAVE DETERMINED THAT NO FURTHER ACTION IS REQUIRED AT THIS TIME.

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS
HOUSING AND ENVIRONMENTAL REGULATION ADMINISTRATION

August 2, 1985

MEMORANDUM TO: File

THROUGH: Angelo C. Tompros, Chief
Pest. & Hazardous Waste Mgmt. Br.

FROM: Byron Bacon
Sanitarian, ECD

SUBJECT: Compliance Inspection at Ft. McNair
EPA Identification [redacted]

On August 1, 1985 Neilima Senjalia and I conducted an initial inspection at Fort McNair Army Base. The facility representative was Peter Larsen, Environmental Coordinator. Fort McNair notified as a generator, primarily because of PCB transformers on base. There will also be, on occasion, pesticides from landscaping and used degreasing solvents from the motorpool. The used solvents are recycled.

Fort McNair will be classified as a small quantity generator.

SS: Washington, DC

NON-MAJOR [XX]

O-OTHER
8-CONTR/STATE
X-EPA OVERSIGHT

OF REPORT: [XX] NEW [ ] UPDATE [ ] SEQUENCE NUMBER

OF INITIAL EVALUATION WHICH E BASIS FOR THIS REPORT: START 8 (M) 1 (D) 85 (Y)

RESPONSIBLE AGENCY

OF EVALUATION COVERED IS REPORT:
"X" in the appropriate box
"CODE" in box for OTHER

[X] -Evaluation Inspection
[ ] -Sampling Inspection
[ ] -Record Review
[ ] -Ground Water Monitoring Evaluation
[ ] -Follow-Up
[ ] 6-Other-Citizen Complaint
7-Other-Part B Call-In
8-Other-Withdrawal Candid
9-Other-Closed Facility
10-Other-General

OF EVALUATION COVERED BY REPORT (enter only if different from 5): M D Y

COMMENTS: Small Quantity Generator; no violations

ND CLASS OF VIOLATION "X" in appropriate Box olations found "0" if NO violations in Area violated. "BLANK" IF AREA WAS VALUATED	CLASS OF VIOLATION	Area of Violation						
		GWM	CL/PC	FIN.Res.	Pt.B	Comp.Sched.	Manifest	Other
	I							
	II							

EMENT ACTIONS

TION CODES	Class of VOL.	Area of VOL.	Type of Action	Date Action Taken(mdy)	Compliance Data (mdy) Scheduled	Compliance Data (mdy) Actual	Penalty ($000) Assessed	Penalty ($000) Collected	Resp Agency
TTER RNING LTR/NOV PLIANCE COMPLAINT AL COMPLIANCE ORDER L ORDER (INITIAL) L ORDER (FINAL) L ORDER PLIANCE ORDER							FOR USE WITH ACTION CODE 4 or 5 ONLY		USE CODE E, S or X ONLY
							$	$	
							$	$	

DEPARTMENT OF THE ARMY
HEADQUARTERS US ARMY MILITARY DISTRICT OF WASHINGTON
FORT LESLEY J. McNAIR
WASHINGTON, DC 20319

March 25, 1985

rec 3HW32 4/1/1

REPLY TO ATTENTION OF

Deputy Chief of Staff
for Engineering and Housing

United States Environmental Protection Agency
Region III
ATTENTION: 3HW32
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

Dear Sir:

I would like to request that an Installation Environmental Protection Agency identification number for hazardous waste disposal be designated for each of the three separate Army posts which make up the Military District of Washington.

The three posts are:

U.S. Army Military District of Washington
Fort Lesley J. McNair
Washington, D.C. 20319-5050

U.S. Army Military District of Washington
Fort Myer
Arlington, Virginia 22211-5050

U.S. Army Military District of Washington
Cameron Station
Alexandria, Virginia 22314-5050

Questions regarding this request should be referred to Peter Larson, Environmental Coordinator, (202) 475-0641.

Sincerely,

Carlos W. Hickman
Colonel, United States Army
Deputy Chief of Staff
for Engineering and Housing

Called left message to call back 4-2-85
Spoke to MR LARSON he will send Notification Forms 4-2-85

GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS
HOUSING AND ENVIRONMENTAL REGULATION ADMINISTRATION
P.O. BOX 37200
WASHINGTON, D.C. 20013-7200

DC8210021004

CERTIFIED MAIL NUMBER P 084 496 595
RETURN RECEIPT REQUESTED

Mr. Rob Paguette
Fort Lesley J. McNair NDW US Army
ANEN-E Building #42
Washington, D.C. 20319

Dear Mr. Paguette

This letter serves as a second Notice of Violation pursuant to the District of Columbia Hazardous Waste Management Act, D.C. Law 2-64; D.C. Code, Section 6-701. Section 262.41 of the D.C. Hazardous Waste Regulations which require generators to submit an Annual Report of hazardous waste shipped off-site. This report was originally to be filed with this office by May 31, 1988. Your facility was issued a Notice of Violation which extented the deadline date to June 24, 1988.

You must submit the required Annual Report by July 20, 1988. Failure to comply with this Notice will result in referral to our Office of Compliance for enforcement action.

If you have any questions, please contact Mr. Byron Bacon or Mr. Javid Jahangiri on 783-3193 and 783-3192.

Sincerely,

Angelo Tompros

Angelo Tompros, Chief
Pesticides and Hazardous
Waste Management Branch

Bob Graves

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

MAR 13 1990

SUBJECT: Fort McNair

FROM: Larry S. Miller, Chief (John Ruggero for)
Toxics and Pesticide Branch (3AM30)

TO: Addressees

Attached for your information are sample results which an ESD inspector received during the course of a PCB inspection of Fort McNair, Washington, D.C. The Army is in the process of building the National Defense University at Fort McNair. The building site is located on an historic landfill and soil borings have shown oil and lead contamination.

Addressees:

Jon Capacasa (3WM40)
[redacted]
Bernard Turlinski (3AM20)
Thomas Voltaggio (3HW20)

cc: R. Pomponio (3ES40)

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY MILITARY DISTRICT OF WASHINGTON
FORT LESLEY J. McNAIR
WASHINGTON, DC 20319-5050

REPLY TO
ATTENTION OF

Environmental Manager

13 FEB 1990

Mr. Charles Hufnagel
Environmental Protection Agency
Region III, Annapolis Operation Section
900 Vestgate Road, Suite 402
Annapolis, MD 21401

Dear Mr. Hufnagel:

Per your request, enclosed are copies of the environmental sample data derived from the future site for the National Defense University (NDU) at Fort Lesley J. McNair in Washington, DC.

The environmental sample data is assembled in a tabular arrangement. The tabs are as follows:

TAB A: Test data on soil collected September 9, 1989.

TAB B: Test data on soil collected September 25, 1989.

TAB C: Air monitoring data, October 25, 1989.

TAB D: Geological issues memorandum, October 26, 1989.

TAB E: Geological issues information.

We appreciate the copies of the October 6, 1989, inspection photographs you provided to us.

Should you have any questions, please contact Ms. Edna Barber, Environmental Manager, at 202-475-2793.

Sincerely,

Kenneth W. H. Chun
Colonel, U.S. Army
Deputy Chief of Staff for
Engineering and Housing

Enclosures

SOIL AND GROUND WATER TEST RESULTS
NATIONAL DEFENSE UNIVERSITY SITE
PRELIMINARY REPORT EPTOX DATA

9 September, 1989

SAMPLE CODE	TYPE	LOCATION	TEST RESULTS *	TEST TYPE
2290	Soil	Near gate and wall surface	AR 9.5 BR 470 CD 0.5 (NDL) * CR 66 PB 1800 mg/kg HG 0.065 SE 0.5 (NDL) AG 1	EPA SW 846
2291	Soil	6 feet deep	AR 6.6 BR 20 (NDL) CD 0.5 (NDL) CR 81 HG 0.41 PB 840 SE 0.5 (NDL) AG 0.8	EPA SW 846
2292	Ground water	Near gate and wall	Benzene less than 1 ug/L ** Toluene less than 1 ug/L ** Ethylbenzene less than 1 ug/L ** Total Xylenes less than 3 ug/L **	EPA 602
2293	Ground water	Near gate and wall	Same as Sample 2292	EPA 602

* NDL denotes None Detectible Level

** Less than Minimal Detectible Level

SAMPLE CODE	TYPE	LOCATION	TEST RESULTS	TEST TYPE
2294	Ground water	Near gate and wall	Benzene less than 1 ug/L ** Toluene less than 1 ug/L ** Ethylbenzene less than 1 ug/L ** Total Xylenes less than 3 ug/L **	EPA 602
2280	Soil	Second and T Sts	AR 3.5 BR 2.0 CD 0.5 (NDL) CR 54 PB 80 HG 0.22 SE 0.5 (NDL) AG 0.5 (NDL)	EPA SW 846
2281	Ground water	Second and T Sts	Benzene less than 1 ug/L ** Toluene less than 1 ug/L ** Ethylbenzene less than 1 ug/L ** Total Xylenes less than 3 ug/L **	EPA 602
2282	Ground water	Second and T Sts	Same as Sample 2281	EPA 602
2283	Ground water	Second and T Sts	Same as Sample 2281	EPA 602

** Less than Minimal Detectible Level

AMERICAN MEDICAL LABORATORIES, INC.®
P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120

INDUSTRIAL HYGIENE DEPARTMENT

DD

RECEIVED : 09/07/89
RELEASED : 09/21/89
REPORTED : 09/22/89
WORK ORDER: 19135

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER----------VALUE-----UNITS----------

8146721 7217-2280 SOIL
5985 MISCELLANEOUS TESTING
STAT TEST NAME: TOTAL METALS, SOIL
RESULTS:

ELEMENT	RESULT, (MG/KG)	DETECTION LIMIT
Arsenic, (As)	3.5	0.5 mg/kg
Barium, (Ba)	20	20 mg/kg
Cadmium, (Cd)	<0.5	0.5 mg/kg
Chromium, (Cr)	54	2 mg/kg
Lead, (Pb)	80	2 mg/kg
Mercury, (Hg)	0.22	0.05 mg/kg
Selenium, (Se)	<0.5	0.5 mg/kg
Silver, (Ag)	<0.5	0.5 mg/kg

ANALYST: Gascoyne Laboratories, Inc.

NOTATIONS

Samples are reported in mg/kg total metal on as received basis.

Sample digested for analysis following EPA Methodology SW-846.

Samples were analyzed for total metal rather than EP Tox leachate due to insufficient sample amount.

*** FINAL REPORT ***

FRED I. GRUNDER
TECHNICAL DIRECTOR, IND. HYGIENE

IRA D. GODWIN, M.D.

AMERICAN MEDICAL LABORATORIES, INC.®
P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120

INDUSTRIAL HYGIENE DEPARTMENT

PAGE 1 DD

RECEIVED : 09/07/89
RELEASED : 09/21/89
REPORTED : 09/22/89
WORK ORDER: 19137

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER----------VALUE-----UNITS----------

8146722 7217-2281 WATER
5985 MISCELLANEOUS TESTING
STAT TEST NAME: BETX
RESULTS:

ANALYTE	RESULT, UG/L	DETECTION LIMIT
Benzene	<1	1 ug/L
Toluene	<1	1 ug/L
Ethylbenzene	<1	1 ug/L
Total Xylenes	<3	3 ug/L

ANALYST: Gascoyne Laboratories, Inc.

NOTATIONS

Sample was analyzed via EPA Method 602.

Sample was received by the laboratory at ambient temperature, in an inappropiate container, without proper preservatives and with headspace.

EP Toxicity and PCB analysis was not performed on on the sample due to insufficient sample volume.

Samples 7217-2281, 7217-2282 and 7187-2283 were combined to allow for analysis.

*** FINAL REPORT ***

FRED I. GRUNDER
TECHNICAL DIRECTOR, IND. HYGIENE

IRA D. GODWIN, M.D.

AMERICAN MEDICAL LABORATORIES, INC.®
P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120

INDUSTRIAL HYGIENE DEPARTMENT

 DD

RECEIVED : 09/07/89
RELEASED : 09/21/89
REPORTED : 09/22/89
WORK ORDER: 19138

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER----------VALUE-----UNITS----------

8146725 7217-2290 SOIL
5985 MISCELLANEOUS TESTING
STAT TEST NAME: PCB'S, SOIL
RESULTS: <2 MG/KG
TEST NAME: TOTAL METALS, SOIL
RESULTS:

ELEMENT	RESULT, MG/KG	DETECTION LIMIT
Arsenic, (As)	9.5	0.5 mg/kg
Barium, (Ba)	470	20 mg/kg
Cadmium, (Cd)	0.5	0.5 mg/kg
Chromium, (Cr)	66	2 mg/kg
Lead, (Pb)	1800	5 mg/kg
Mercury, (Hg)	0.65	0.05 mg/kg
Selenium, (Se)	<0.5	0.5 mg/kg
Silver, (Ag)	1	0.5 mg/kg

ANALYST: Gascoyne Laboratories, Inc.

8146726 7217-2291 SOIL
5985 MISCELLANEOUS TESTING
STAT TEST NAME: PCB'S, SOIL
RESULTS: <2 MG/KG
TEST NAME: TOTAL METALS, SOIL
RESULTS:

ELEMENT	RESULT, MG/KG	DETECTION LIMIT
Arsenic, (As)	6.6	0.5 mg/kg
Barium, (Ba)	<20	20 mg/kg
Cadmium, (Cd)	<0.5	0.5 mg/kg
Chromium, (Cr)	81	2 mg/kg
Lead, (Pb)	840	5 mg/kg
Mercury, (Hg)	0.41	0.05 mg/kg
Selenium, (Se)	<0.5	0.5 mg/kg
Silver, (Ag)	0.8	0.5 mg/kg

ANALYST: Gascoyne Laboratories, Inc.

NOTATIONS

Analysis performed for PCB's by electron capture gas chromatography, (EC/GC), according to EPA Method 8080.
CONTINUED ON NEXT PAGE

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DIRECTOR OF LABORATORIES

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INDUSTRIAL HYGIENE DEPARTMENT

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RECEIVED : 09/07/89
RELEASED : 09/21/89
REPORTED : 09/22/89
WORK ORDER: 19138

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE
This method has a limit of detection of 2 mg/kg.

Results for PCB analyses are based on a dry weight basis.

Both samples for PCB analysis were submitted in inappropiate containers. Samples were received by the laboratory with headspace.
Results for total metals analyses are reported on as received basis.

Samples prepared for total metals analysis via EPA Method SW-846.

Samples were analyzed for total metals rather than EP Tox leachate due to insufficient sample amount.

*** FINAL REPORT ***

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TECHNICAL DIRECTOR, IND. HYGIENE

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PAGE 1 DD

RECEIVED : 09/07/89
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WORK ORDER: 19140

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER----------VALUE-----UNITS----------

8146727 7217-2292 WATER
5985 MISCELLANEOUS TESTING
STAT TEST NAME: BTEX
RESULTS:

ANALYTE	RESULT, UG/L	DETECTION LIMIT
Benzene	<1	1.0 ug/L
Toluene	<1	1.0 ug/L
Ethylbenzene	<1	1.0 ug/L
Total Xylenes	<3	3.0 ug/L

RESULTS:
Samples 7217-2292, 7217-2293 and 7217-2294 were combined to allow for analysis.
ANALYST: Gascoyne Laboratories, Inc.

NOTATIONS

Sample was analyzed via EPA Method 602.

Sample was received by the laboratory at ambient temperature, in an inappropiate container, without proper preservation and with headspace.

EP Toxicity and PCB analysis was not performed on the sample due to insufficient sample volume.

*** FINAL REPORT ***

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DIRECTOR OF LABORATORIES

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REPORTED : 09/22/89
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7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER		VALUE	UNITS
8146730	7217-2270	SOIL	
5985	MISCELLANEOUS TESTING		
STAT	TEST NAME:	TOTAL PETROLEUM HYDROCARBONS	
	RESULTS:	7260	MG/KG
	TEST NAME:	BTEX	
	RESULTS:	Benzene	<1 mg/kg
		Toluene	<1 mg/kg
		Ethylbenzene	<1 mg/kg
		Xylenes	<3 mg/kg
	TEST NAME:	EP TOXICITY SW-846, (LEACH)	
	RESULTS:		

ANALYTE	RESULT, MG/L	DETECTION LIMIT
Arsenic, (As)	<0.1	0.1 mg/L
Barium, (Ba)	<1	1 mg/L
Cadmium, (Cd)	<0.01	0.01 mg/L
Chromium, (Cr)	<0.1	0.1 mg/L
Lead, (Pb)	<0.1	0.1 mg/L
Mercury, (Hg)	<0.01	0.01 mg/L
Selenium, (Se)	<0.1	0.1 mg/L
Silver, (Ag)	<0.01	0.01 mg/L
Endrin	<0.002	0.002 mg/L
Lindane	<0.001	0.001 mg/L
Methoxychlor	<0.02	0.02 mg/L
Toxaphene	<0.04	0.04 mg/L
2,4-D	<0.004	0.004 mg/L
2,4,5-TP, (Silvex)	<0.002	0.002 mg/L

ANALYST: Gascoyne Laboratories, Inc.

8146731	7217-2271	SOIL	
5985	MISCELLANEOUS TESTING		
STAT	TEST NAME:	TOTAL PETROLEUM HYDROCARBONS	
	RESULTS:	5050	MG/KG
	TEST NAME:	BTEX	
	RESULTS:	Benzene	<1 mg/kg
		Toluene	<1 mg/kg
		Ethylbenzene	<1 mg/kg
		Xylenes	<3 mg/kg
	TEST NAME:	EP TOXICITY LEACH, (SW-846)	

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222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE

RESULTS:

ANALYTE	RESULT, MG/L	DETECTION LIMIT
Arsenic, (As)	<0.1	0.1 mg/L
Barium, (Ba)	<1	1 mg/L
Cadmium, (Cd)	<0.01	0.01 mg/L
Chromium, (Cr)	0.1	0.1 mg/L
Lead, (Pb)	<0.1	0.1 mg/L
Mercury, (Hg)	<0.01	0.01 mg/L
Selenium, (Se)	<0.1	0.1 mg/L
Silver, (Ag)	<0.01	0.01 mg/L
Endrin	<0.002	0.002 mg/L
Lindane	<0.001	0.001 mg/L
Methoxychlor	<0.02	0.02 mg/L
Toxaphene	<0.04	0.04 mg/L
2,4-D	<0.004	0.004 mg/L
2,4,5-TP, (Silvex)	<0.002	0.002 mg/L

ANALYST: Gascoyne Laboratories, Inc.

NOTATIONS

Analysis for Total Petroleum Hydrocarbons,(TPH), were performed via EPA Method 418.1., which has a lower limit of detection of 10 mg/kg.

Analyses for BTEX were performed via EPA 8020, with results expressed as a per weight basis.

Samples for BTEX analysis were submitted to the laboratory in inappropiate containers, at ambient temperature and in containers with headspace.

Analysis for EP Toxicity was completed via methodology in EPA SW-846.

The current RCRA EP Toxicity leach requirements are as follows:

Arsenic 5.0 mg/L

CONTINUED ON NEXT PAGE

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7217 COE, ENG. ACT., CAPITAL AREA
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BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER	VALUE	UNITS
CONTINUED FROM PRIOR PAGE		
Barium	100	mg/L
Cadmium	1.0	mg/L
Chromium	5.0	mg/L
Lead	5.0	mg/L
Mercury	0.2	mg/L
Selenium	1.0	mg/L
Silver	5.0	mg/L
Endrin	0.02	mg/L
Lindane	0.4	mg/L
Methoxychlor	10.0	mg/L
Toxaphene	0.5	mg/L

2,4-D : 10.0 mg/L 2,4,5-TP, (Silvex): 1.0 mg/L

*** FINAL REPORT ***

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BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER----------VALUE-----UNITS----------

8146732 7217-2272 WATER
5985 MISCELLANEOUS TESTING
STAT TEST NAME: BTEX
RESULTS:

ANALYTE	RESULT, UG/L	DETECTION LIMIT
Benzene	<1	<1.0 ug/L
Toluene	<1	<1.0 ug/L
Ethylbenzene	<1	<1.0 ug/L
Total Xylenes	<3	<3.0 ug/L

RESULTS:
Samples 7217-2272 and 7217-2273 were combined to allow for analysis.
ANALYST: Gascoyne Laboratories, Inc.

NOTATIONS

Sample was analyzed via EPA Method 602.

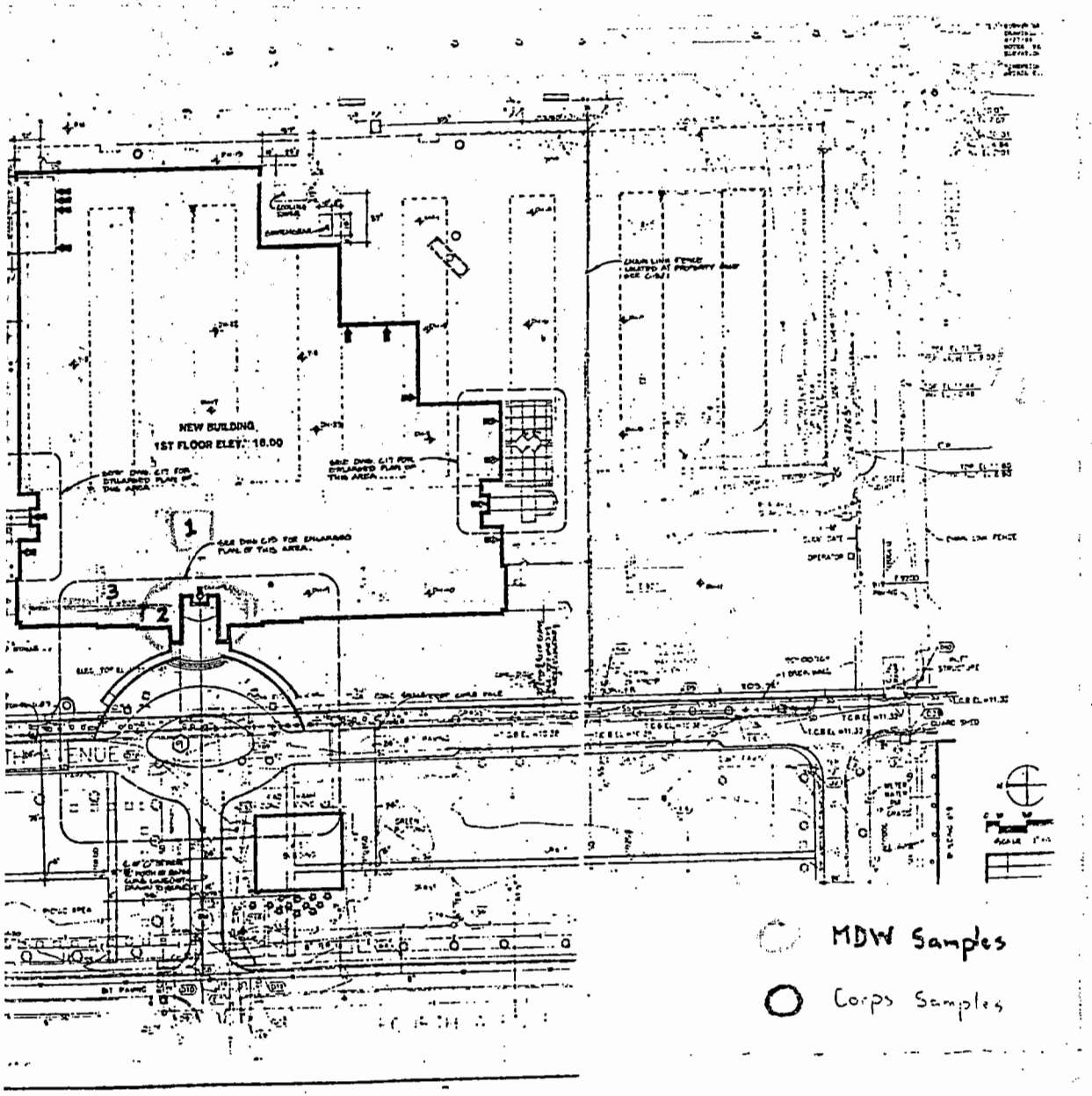
Sample was received by the laboratory at ambient temperature, in an inappropiate container, without proper preservation and with headspace.

EP Toxicity and PCB analysis was not performed on the sample due to insufficient sample volume.

*** FINAL REPORT ***

FRED I. GRUNDER
TECHNICAL DIRECTOR, IND. HYGIENE

IRA D. GODWIN, M.D.
DIRECTOR OF LABORATORIES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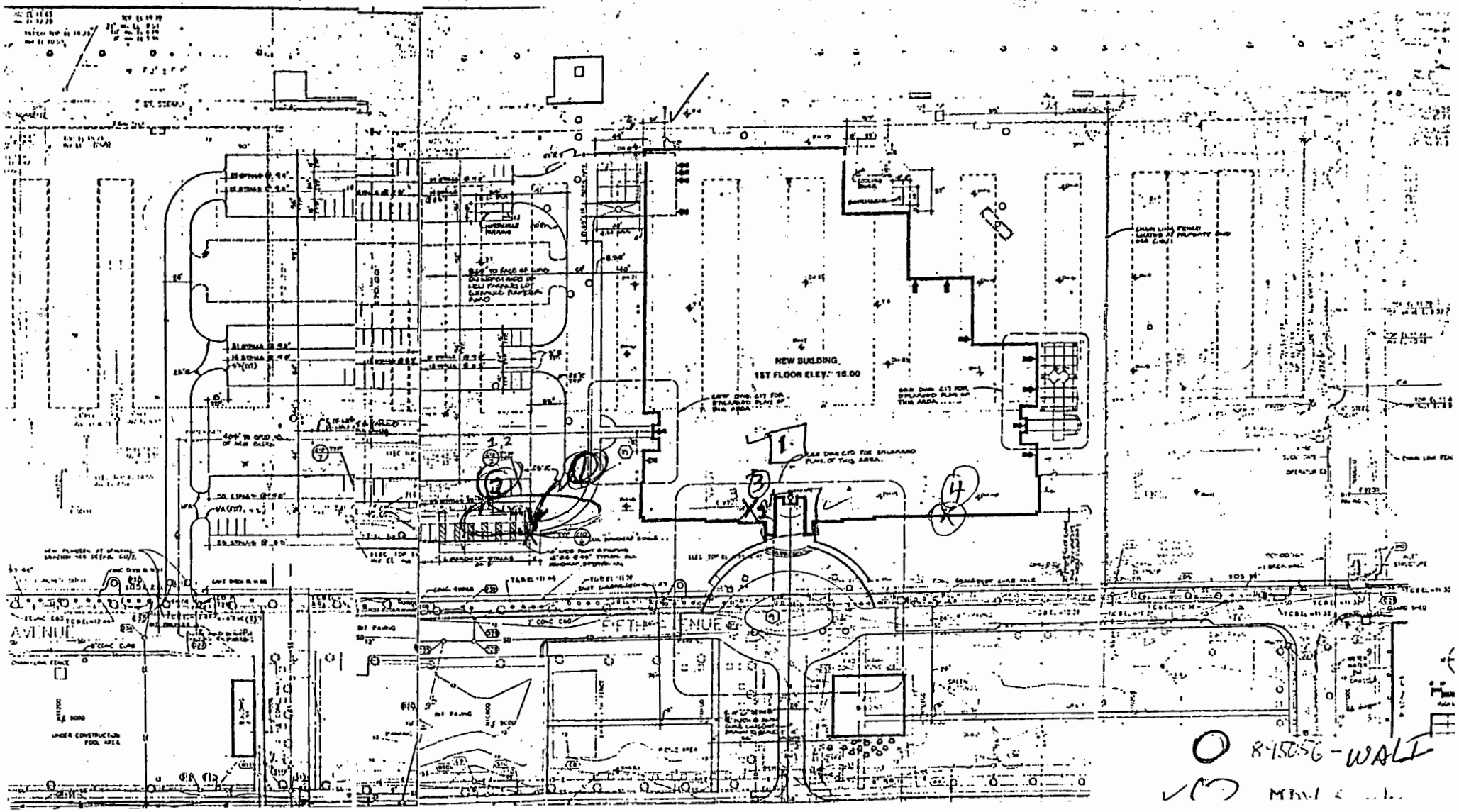
1ST FLOOR ELEV: 18.00
MDW Samples
Corps Samples


NEW BUILDING
1ST FLOOR ELEV.= 16.00
FIFTH AVENUE
AVENUE

SOIL AND GROUND WATER TEST RESULTS
NATIONAL DEFENSE UNIVERSITY SITE

25 September, 1989

SAMPLE CODE	TYPE	LOCATION	TEST RESULTS *	TEST TYPE
2530	Soil	Site near gate surface SE corner	0% Asbestos Arsenic NDL * Barium NDL Cadmium NDL Chromium NDL Lead 1.5 mg/kg Mercury NDL Selenium NDL Silver NDL	EPA SW 846
2531	Soil	SE corner 20 feet deep	Arsenic NDL Barium NDL Cadmium NDL Chromium NDL Lead NDL Mercury NDL Selenium NDL Silver NDL	EPA SW 846
2532	Soil	V Street near parking lot, 20 feet deep	Arsenic NDL Barium NDL Cadmium NDL Chromium NDL Lead NDL Mercury NDL Selenium NDL Silver NDL	EPA SW 846
2533	Soil	NE corner 2nd Street 3 feet deep	Arsenic NDL Barium NDL Cadmium NDL Chromium NDL Lead NDL Mercury NDL Selenium NDL Silver NDL	EPA SW 346

* NDL denotes None Detectible Level

SAMPLE CODE	TYPE	LOCATION	TEST RESULTS	TEST TYPE
2534	Ground water	V St SE corner 20 ft deep surface aquifer	Sulfate 240 ppm Conductants: 1131 microhoms Alkalinity 285 ppm PH 7.3 TOH 0.02 ppm CL 60 ppm TOC 18 ppm	EPA 602
2535	Ground water	SW corner 20 ft deep surface aquifer	Sulfate 540 ppm Conductants: 2210 microhoms Alkalinity 544 ppm PH 6.7 TOH 0.05 ppm CL 130 ppm TOC 32 ppm	EPA 602
2536	Cement pipe	Fragments near 4th St 25 ft deep excavation	45% Asbestos Type: chrysotile 15% Asbestos Type: chricidolite	EPA SW 846
2537	Ground water	Bore hole column line I8 manhole	Sulfate 160 ppm Conductivity: 870 microhoms/cm Alkalinity 285 ppm PH 7.3 TOH 0.02 ppm CL 21 ppm TOC 9.3 ppm	EPA 602
2538	Ground water	Bore hole column line F8	Sulfate 238 ppm Conductivity: 808 microhoms/cm Alkalinity 386 ppm PH 6.7 TOH 0.02 ppm CL 13 ppm TOC 6.5 ppm	EPA 602

SAMPLE CODE	TYPE	LOCATION	TEST RESULTS	TEST TYPE
2539	Soil	Electric duct bank 3 ft deep	0% Asbestos Arsenic NDL Barium NDL Cadmium NDL Lead 0.5 mg/l Mercury NDL Selenium NDL Silver NDL	EPA SW 846

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REPORTED : 10/09/89
WORK ORDER: 20098

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER		VALUE	UNITS
	CONTINUED FROM PRIOR PAGE		
	Cadmium	<0.01	1.0
	Chromium	<0.1	5.0
	Lead	<0.1	5.0
	Mercury	<0.01	0.2
	Selenium	<0.1	1.0
	Silver	<0.01	5.0
	TEST NAME:	EP Toxicity Extraction, Pesticides	
	RESULTS:		

ANALYTE	RESULT, (MG/L)	LIMIT, (MG/L)
Endrin	<0.001	0.02
Lindane	<0.001	0.4
Methoxychlor	<0.01	10.0
Toxaphene	<0.04	0.5
2,4-D	<0.004	10.0
2,4,5-TP, (Silvex)	<0.001	1.0

ANALYST: Gascoyne Laboratories

8149726 7217-2532 BULK SAMPLE
5985 MISCELLANEOUS TESTING
STAT TEST NAME: pH
RESULTS: 7.0 pH units
TEST NAME: EP Toxicity Extraction, Metals
RESULTS:

ELEMENT	RESULT, (MG/L)	LIMIT, (MG/L)
Arsenic	<0.1	5.0
Barium	<1	100
Cadmium	<0.01	1.0
Chromium	<0.1	5.0
Lead	<0.1	5.0
Mercury	<0.01	0.2
Selenium	<0.1	1.0
Silver	<0.01	5.0

TEST NAME: EP Toxicity Extraction, Pesticides

RESULTS:
CONTINUED ON NEXT PAGE

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PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE

ANALYTE	RESULT, (MG/L)	LIMIT, (MG/L)
Endrin	<0.001	0.02
Lindane	<0.001	0.4
Methoxychlor	<0.01	10.0
Toxaphene	<0.04	0.5
2,4-D	<0.004	10.0
2,4,5-TP, (Silvex)	<0.001	1.0

ANALYST: Gascoyne Laboratories

8149727 7217-2533 BULK SAMPLE
5985 MISCELLANEOUS TESTING
STAT TEST NAME: pH
RESULTS: 6.7 pH units
TEST NAME: EP Toxicity Extraction, Metals
RESULTS:

ELEMENT	RESULTS, (MG/L)	LIMIT, (MG/L)
Arsenic	<0.1	5.0
Barium	<1	100
Cadmium	<0.01	1.0
Chromium	<0.1	5.0
Lead	<0.1	5.0
Mercury	<0.01	0.2
Selenium	<0.1	1.0
Silver	<0.01	5.0

TEST NAME: EP Toxicity Extraction, Pesticides
RESULTS:

ANALYTE	RESULT, (MG/L)	LIMIT, (MG/L)
Endrin	<0.001	0.02
Lindane	<0.001	0.4
Methoxychlor	<0.01	10.0
Toxaphene	<0.04	0.5
2,4-D	<0.004	10.0
2,4,5-TP, (Silvex)	<0.001	1.0

ANALYST: Gascoyne Laboratories

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222115050

PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE

8149728 7217-2539 BULK SAMPLE
5985 MISCELLANEOUS TESTING
STAT TEST NAME: pH
RESULTS: 7.4 pH units
TEST NAME: EP Toxicity Extraction, Metals
RESULTS:

ELEMENT	RESULT, (MG/L)	LIMIT, (MG/L)
Arsenic	<0.1	5.0
Barium	<1	100.0
Cadmium	<0.01	1.0
Chromium	<0.1	5.0
Lead	0.5	5.0
Mercury	<0.01	0.2
Selenium	<0.1	1.0
Silver	<0.01	5.0

TEST NAME: EP Toxicity Extraction, Pesticides
RESULTS:

ANALYTE	RESULT, (MG/L)	LIMIT, (MG/L)
Endrin	<0.001	0.02
Lindane	<0.001	0.4
Methoxychlor	<0.01	10.0
Toxaphene	<0.04	0.5
2,4-D	<0.004	10.0
2,4,5-TP, (Silvex)	<0.001	1.0

ANALYST: Gascoyne Laboratories

NOTATIONS

Samples submitted to Gascoyne Laboratories as submitted by client.

Samples were extracted for EP Toxicity leachate analyses via EP Toxicity protocol, EPA SW-846.

Samples are reported in mg/L analyte in leachate

CONTINUED ON NEXT PAGE

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ATTN: DONALD P. LANE, NACSA-S
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ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE
extract.

*** REASON FOR CORRECTION ***

*** CORRECTED REPORT ***

FRED I. GRUNDER
TECHNICAL DIRECTOR, IND. HYGIENE

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RECEIVED : 09/28/89
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REPORTED : 10/09/89
WORK ORDER: 20099

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER----------VALUE-----UNITS----------

8149729 7217-2534 WATER
5985 MISCELLANEOUS TESTING
STAT RESULTS:

ANALYTE	RESULTS
Sulfate	240 ppm
Specific Conductance	1131 umhos/cm
Alkalinity	285 ppm
pH	7.3 pH units
Total Organic Halide	0.02 ppm
Chloride	60 ppm
Total Organic Carbon	18 ppm

ANALYST: Gascoyne Laboratories

8149730 7217-2535 WATER
5985 MISCELLANEOUS TESTING
STAT RESULTS:

ANALYTE	RESULT
Sulfate	540 ppm
Specific Conductance	2210 umhos/cm
Alkalinity	544 ppm
pH	6.7 pH units
Total Organic Halide	0.05 ppm
Chloride	130 ppm
Total Organic Carbon	32 ppm

ANALYST: Gascoyne Laboratories

8149731 7217-2537 WATER
5985 MISCELLANEOUS TESTING
STAT RESULTS:

ANALYTE	RESULTS
Sulfate	160 ppm
Specific Conductance	870 umhos/cm
Alkalinity	285 ppm
pH	7.3 pH units
Total Organic Halide	0.02 ppm
Chloride	21 ppm

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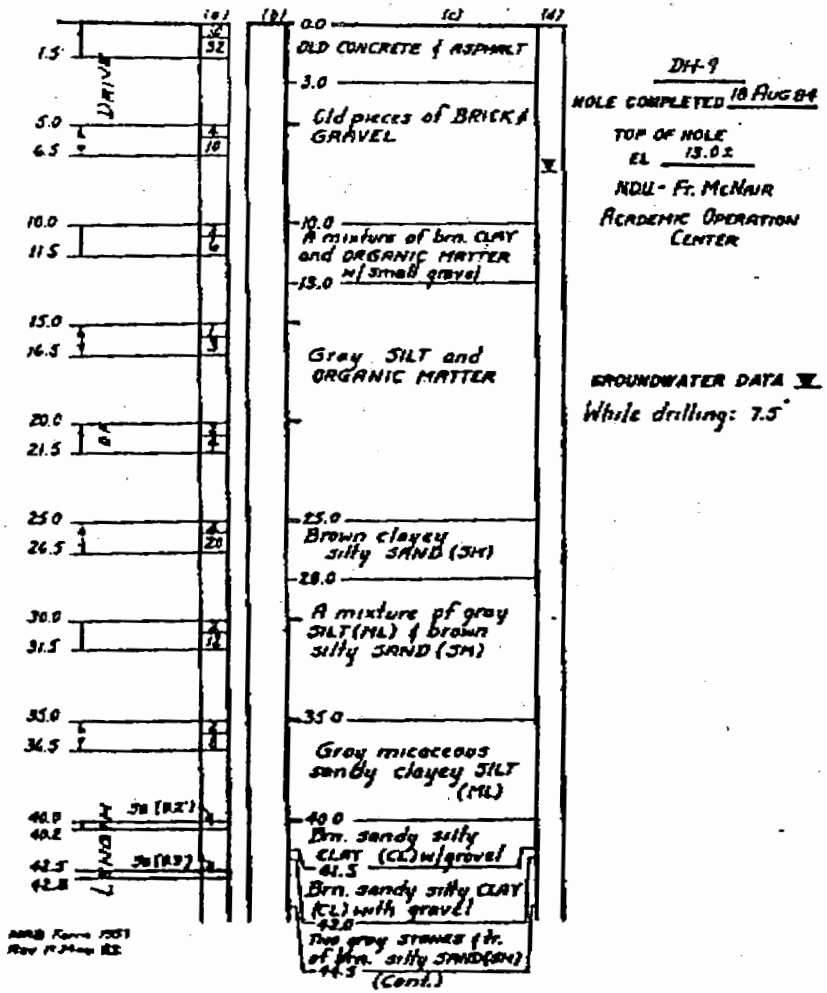


DH-9

HOLE COMPLETED 18 AUG 84

TOP OF HOLE EL 13.0 ±

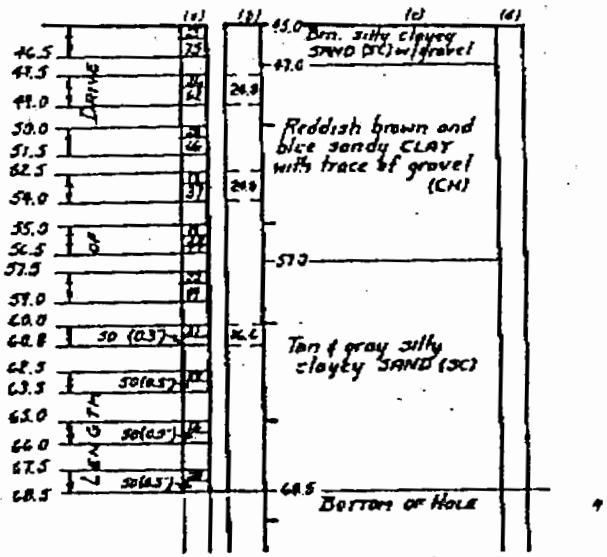
NDU - Ft. McNair

Academic Operation Center

GROUNDWATER DATA ▽

While drilling: 7.5'

(Cont.)



2 NOV 1989 RN

Lab Number: A5885-A5886
Installation: Ft McNair
Project Number: 38-26-0358-90
Sample Type: Soil
Analysis Requested: GC/MS semi-volatile screen and petroleum hydrocarbon screen
Analysis Requested by: WDED
Project Officer: Mr. Wayne Fox
Date Received: 27 October 1989
Date Completed: 1 November 1989

Two soil samples were received for the determination of source of unknown organic contamination in the soil samples. A variety of extractive and analytical techniques were employed to characterize the samples. Both samples were found to contain low levels (parts per million) of a variety of polynuclear aromatic compounds by Gas Chromatographic/Mass Spectroscopic Analysis. Gas chromatographic analysis of a hexane extract of the soil samples showed no detectable amounts of low boiling petroleum products (fuel oils, gasolines, petroleum solvents, etc.). Infrared analysis showed significant amounts of high boiling aliphatic hydrocarbons (primarily a product chemically and physically similar to a used motor oil). Sample numbered 0358-1 (AQAD NUMBER A5885) was found to contain 0.10 per cent total non volatile hydrocarbons (primarily a product chemically and physically similar to a used motor oil). Sample numbered 0358-2 (AQAD NUMBER A5886) was found to contain approximately 0.12 per cent total non volatile hydrocarbons (primarily a product chemically and physically similar to a used motor oil). No PCB's were detected in the soil samples above the 1 part per million analytical limit of detection.

Analyzed by _____ Reviewed by Richard W. Bohy 2 Nov 89

Analyzed by _____ 2 Nov 89 Authorized by Robert T Hicks 2 Nov 89

ENCL 3

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REPORTED : 10/09/89
WORK ORDER: 20099

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER----------VALUE-----UNITS----------

CONTINUED FROM PRIOR PAGE
Total Organic Carbon 9.3 ppm
ANALYST: Gascoyne Laboratories

8149732 7217-2538 WATER
5985 MISCELLANEOUS TESTING
STAT RESULTS:

ANALYTE	RESULT
Sulfate	3 ppm
Specific Conductance	808 umhos/cm
Alkalinity	386 ppm
pH	6.7 pH units
Total Organic Halide	0.02 ppm
Chloride	13 ppm
Total Organic Carbon	6.5 ppm

ANALYST: Gascoyne Laboratories

NOTATIONS

Method of analysis for analytes are as follows:

Sulfate	EPA 375.4
Specific Conductance	EPA 120.1
Alkalinity	EPA 310.1
pH	EPA 150.1
Total Organic Halide	EPA 9020
Chloride	EPA 325.3
Total Organic Carbon	EPA 415.1

Samples were received by the Laboratory at ambient temperature.

Headspace was found in all samples for Total Organic Halides, (TOH).

Analysis for Total Organic Carbon, (TOC), was performed on a decanted portion of the total sample submitted.

Samples were sent to Gascoyne Laboratories as received
CONTINUED ON NEXT PAGE

IRA D. GODWIN, M.D.
DIRECTOR OF LABORATORIES

AMERICAN MEDICAL LABORATORIES, INC.®
P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120

INDUSTRIAL HYGIENE DEPARTMENT

DD

RECEIVED : 09/28/89
RELEASED : 10/06/89
REPORTED : 10/09/89
WORK ORDER: 20099

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER	VALUE	UNITS
CONTINUED FROM PRIOR PAGE		
from client.		

*** FINAL REPORT ***

FRED I. GRUNDER
TECHNICAL DIRECTOR, IND. HYGIENE

IRA D. GODWIN, M.D.
DIRECTOR OF LABORATORIES

Barker

(Hy)gienist or Safety Officer | Date: 9/25/89

(Ca)libration Vol. (CV): liters | Facility: Fort McNair NDW | Sample Time (ST) = min.

(Fl)owrate = (60) x (CV) / (ET) = lpm | Project: EXCAVATION Site | SV = (ST) x (FR) = liters

CALIBRATION | SAMPLE

(Pu)mp # / (Fi)eld #	(ET) Elapsed Time / Flow Rate pre	post	EACA Lab #	Description / Location	Start / Stop	Pump Setting / Elapsed Time	(SV) Sample Vol. / Results
B U	X	X	2530	Site Near Gate Surface SE Corner	X	X	EPTOX PH
L K	X	X	2531	SE Corner Site 20 feet deep	X	X	EPTOX PH
S O	X	X	2532	V St site near parking lot 20 feet deep	X	X	EPTOX PH
I L	X	X	2533	NE Corner 2nd St Site 3 feet deep	X	X	EPTOX pH
H2O S	X	X	2534	Groundwater 20 feet deep V Street Surface Acquifer SE Corner	X	X	EPTOX PH
A M	X	X	2535	Groundwater 20 feet deep Surface acquifer SW Corner	X	X	EPTOX PH
P	X	X	2536	Cement pipe fragments (near) 25 feet deep 4th St	X	X	Asbes
L	X	X	2537	Borehole Column line Near I8 Manhole Groundwater			EPTOX PH
E	X	X	2538	Groundwater Borehole Column line F8	X	X	EP TOX PH
S	X	X	2539	Electric duct bank 3 feet deep	X	X	EPTOX PH

AMERICAN MEDICAL LABORATORIES, INC.
11091 Main Street • P.O. Box 188
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9100

AML

PLEASE TYPE OR USE BALL POINT PEN AND PRINT HARD.

USE ONE FORM PER SAMPLE OR ONE FORM PER MULTIPLE SAMPLES AS APPROPRIATE.

PATIENT OR PROJECT NAME: FT MCNair
SSN (OPTIONAL):

ADDRESS/FACILITY: NDU EXTENSION
CITY:
STATE:
ZIP:

PHONE: 475-2793
DATE AND TIME OF COLLECTION: 9/25/89
DATE RECEIVED:

LAB NOTES/COMMENTS/SPECIAL CONDITIONS: EPTox Asbestos pH Construction Excavation Site
JOB I.D.: Barber
NUMBER OF SAMPLES: 10

REQUIRES REVIEW BY IH DIRECTOR PRIOR TO LOGGING IN ☐ IF NECESSARY CIRCLE ONE: (STAT) CALL

PLEASE USE LABELS IN NUMERIC ORDER AND MATCH WITH SAMPLE ID

PLEASE NOTE:
CHAIN OF CUSTODY FORMS AVAILABLE UPON REQUEST.

7217-2530	7217-2531	7217-2532	7217-2533	7217-2534
7217-2535	7217-2536	7217-2537	7217-2538	7217-2539

7217 DD
COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON, VA 222115050
10 MAY 1988

PEEL OFF LABEL FROM INSIDE CORNER AND PLACE LABEL ON SAMPLE(S)

SAMPLE I.D.	SAMPLE DESCRIPTION/SOURCE	SAMPLE DATA (e.g. AIR VOLUME)	ANALYSES REQUESTED	TEST CODE	LAB NUMBER (AML USE)
530	Site near water surface	Bulk	Asbestos | EPTOX | pH		
531	Site 20 ft deep Near NDU Second	Bulk	EPTox pH		
532	2 cft deep Site near parking lot V St	Bulk	EPTox pH		
533	3 ft deep 2nd St corner	Bulk	EPTox pH		
534	Ground water 20 ft deep V St	Bulk	EPTOX pH		
535	Ground 20 ft near water SW corner	Bulk	EPTOX pH		
536 25 ft SW	Pipe [illegible] 4th St near	Bulk	Asbestos		
537 MANH	Bore hole column line [illegible]	Bulk	EPTox & pH		
538	Borehole column line F8	Bulk	EPTOX & pH		
539	Elev duct bank 3 ft deep	Bulk	EPTOX & Asbestos		

RJ LeeGroup

The Materials Characterization Specialists

LABORATORY REPORT

****

U.S. ARMY CORPS OF ENGINEERS
CAPITAL AREA OFFICE, P.O. BOX 89
FT. BELVOIR, VIRGINIA 22060-0089
ATTN: ROBERT WILSON

REPORT DATE: SEPTEMBER 18, 1989
SAMPLES RECEIVED: SEPTEMBER 15, 1989
RJ LEE JOB NO: A0W909033
PURCHASE ORDER NO: WRITTEN AUTHORITY

ANALYSIS: ASBESTOS IN BULK SAMPLES

METHOD: PLM (POLARIZED LIGHT MICROSCOPY/DISPERSION STAINING) 40 CFR PART 763 APP. A TO SUBPART F

SAMPLE IDENTIFICATION		CHRYSOTILE ASBESTOS	AMPHIBOLE ASBESTOS	NON-ASBESTOS FIBERS	
CLIENT	RJ LEE	(VOLUME %)	(VOLUME %)	(VOLUME %)	PHYSICAL DESCRIPTION OF SAMPLE
#1	54771	30	ND1		GRAY TRANSITE
#2	54772	ND1	ND1	10 CELLULOSE	GRAY GYPSUM BOARD
#3	54773	25	ND1		GRAY TRANSITE

Bill Powers
LABORATORY ANALYST

9-19-89
DATE:

Tom Dagenhart
TOM DAGENHART, M.S.
LABORATORY MANAGER, NVLAP SIGNATORY

EPA Accreditation Number 3410; NIST NVLAP Participant Number 1208-3

PLEASE SEE ESSENTIAL NOTES ON REVERSE SIDE OF REPORT

AMERICAN MEDICAL LABORATORIES, INC.®
P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120

INDUSTRIAL HYGIENE DEPARTMENT

DD

RECEIVED : 09/28/89
RELEASED : 10/09/89
REPORTED : 10/09/89
WORK ORDER: 20098

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: NOT PROVIDED

AML NUMBER----------VALUE-----UNITS----------

8149724 7217-2530 BULK SAMPLE
5985 MISCELLANEOUS TESTING
STAT TEST NAME: pH
RESULTS: 8.1 pH units
TEST NAME: EP Toxicity Extraction,Metals
RESULTS:

ELEMENT	RESULT, (MG/L)	LIMIT, (MG/L)
Arsenic	<0.1	5.0
Barium	<1	100.0
Cadmium	<0.01	1.0
Chromium	<0.1	5.0
Lead	1.5	5.0
Mercury	<0.01	0.2
Selenium	<0.1	1.0
Silver	<0.01	5.0

TEST NAME: EP Toxicity Extraction, Pesticides
RESULTS:

ANALYTE	RESULT, (MG/L)	LIMIT, (MG/L)
Endrin	<0.001	0.02
Lindane	<0.001	0.4
Methoxychlor	<0.01	10.0
Toxaphene	<0.04	0.5
2,4-D	<0.004	10.0
2,4,5-TP, (Silvex)	<0.001	1.0

ANALYST: Gascoyne Laboratories

8149725 7217-2531 BULK SAMPLE
5985 MISCELLANEOUS TESTING
STAT TEST NAME: pH
RESULTS: 6.9 pH units
TEST NAME: EP Toxicity Extraction, Metals
RESULTS:

ELEMENT	RESULT, (MG/L)	LIMIT, (MG/L)
Arsenic	<0.1	5.0
Barium	<1	100.0

CONTINUED ON NEXT PAGE

IRA D. GODWIN. M.D.

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY MILITARY DISTRICT OF WASHINGTON
FORT LESLEY J. McNAIR
WASHINGTON, DC 20319-5050

REPLY TO
ATTENTION OF

ANEN-E (200)

OCT 06 1989

MEMORANDUM FOR DCSEH, ATTN: ANEN (COL Chun), Bldg 203, Fort Myer, VA 22211-5050

SUBJECT: NDU Construction Site at Fort McNair

1. On 25 Aug 89 Overbrook Excavation contacted MDW's Environmental Division concerning two sub sites which appeared to be former dump or burn pits located on a 9 acre tract of land (formerly Tempo A & B sites) at Fort McNair.

2. Record research demonstrated Baltimore District procured the services of Hugh Newell Jacobsen, F.A.I.A., to conduct a feasibility study in 1983. The 1983-1985 site investigation addressed only the soil potential for weight loading. Additionally, the site investigation demonstrated Hugh Newell Jacobsen researched 1882-1972 historical land use documents.

3. No environmental baseline survey (EBS) data was conducted in accordance with AR 415-15. Once the Tempo A & B Buildings were demolished, an EBS should have been conducted on the leveled land site.

4. On 9 Sep 89, the Environmental Division collected a series of soil and ground water samples from two sites, excavated near the Fort McNair exterior wall and Second and T Streets. The samples were sent to an independent laboratory to be tested for primary soil pollutants (AML/Gascoyne/Laboratories). The attached test results data demonstrate the soil from the two burn pit sites contain three of the Environmental Protection Agency's primary heavy metal soil pollutants. Additionally, soil from the site contains an unusually high concentration of barium. On 25 Sep 89, additional site soil and ground water samples were collected. The test results demonstrate the balance of the excavated site is not contaminated, therefore the area is a Category I site. However, the isolated areas where asbestos were found will require asbestos removal by a bonded and licensed asbestos abatement contractor.

5. Further, material suspected to be asbestos was collected by the contractor and sent to an independent laboratory for analysis (R.J. Lee Group). The test data demonstrate the soil debris contained thirty (30) percent chrysotile asbestos.

ANEN-E (200)
SUBJECT: NDU Construction Site at Fort McNair

6. All of these environmental soil contaminants support the following thesis:

a. Based on the preliminary environmental findings, the two burn pits are potential Category III sites. These two areas need to be excavated down to the area where the soil heavy metals are at the minimal detectible limit.

b. All laboratory test data was discussed with EPA Region III and the District of Columbia.

c. An EIS should have been conducted prior to any commencement of NDU footprint excavation.

7. For additional guidance, please contact USATHAMA Installation Restoration Programs Office. Mr. Ali Alavi is the point of contact on 301-671-2270. If MAJ Hatch and the Baltimore District Corps do not conduct the Baseline EBS Clearance in accordance with AR 415-15 for Category III sites, they will risk legal accountability.

8. Should you have any questions, my point of contact is Ms. Edna M. Barber at 475-2793.

for STEPHEN C. ETSELL
Lieutenant Colonel, EN
Assistant Deputy Chief of Staff
for Engineering and Housing

CF:

MAJ Schroeder
MAJ Hatch
B. Dunn
D. Ghiglio
R. Wilson
MAJ Howze
L. Baylor
Mr. Starr
CPT Queen
C. Damico

P.O. Box 188 • 11091 Main Street
Fairfax, Virginia 22030-0188
Telephone: (703) 691-9120

INDUSTRIAL HYGIENE DEPARTMENT

PAGE 1 DD

RECEIVED : 10/12/89
RELEASED : 10/18/89
REPORTED : 10/19/89
WORK ORDER: 20663

7217 COE, ENG. ACT., CAPITAL AREA
ATTN: DONALD P. LANE, NACSA-S
BUILDING 203, FT. MYER
ARLINGTON , VA
222115050

PROJECT NAME/JOB ID: BARBER

AML NUMBER		VALUE	UNITS
8151424	7217-2550	SOIL	
1507	PCB'S-POLYCHLORINATED	BIPHENYLS	
CALLED	CONCENTRATION:	Less than Detection Limit.	
	DETECTION LIMIT:	0.1	UG/G
	ANALYST:	R. Kenneth Petrie	
8151425	7217-2551	SOIL	
1507	PCB'S-POLYCHLORINATED	BIPHENYLS	
CALLED	CONCENTRATION:	Less than Detection Limit.	
	DETECTION LIMIT:	0.1	UG/G
	ANALYST:	R. Kenneth Petrie	
8151426	7217-2552	SOIL	
1507	PCB'S-POLYCHLORINATED	BIPHENYLS	
CALLED	CONCENTRATION:	0.1	UG/G
	DETECTION LIMIT:	0.1	UG/G
	ANALYST:	R. Kenneth Petrie	

NOTATIONS

Analysis is performed by electron capture gas chromatography as outlined in EPA-600/8-80-038 "Manual of Analytical Methods For The Analysis of Pesticides in Humans and Environmental Samples".

*** FINAL REPORT ***

FRED I. GRUNDER
TECHNICAL DIRECTOR, IND. HYGIENE

IRA D. GODWIN, M.D.
DIRECTOR OF LABORATORIES

4230-A Lafayette Center Drive
Chantilly, Virginia 22021
(703) 631-6868 FAX (703) 968-3912

October 20, 1989

Corps of Engineers
ATTN: Edna Barber
Fort McNair, Building 42
Washington, DC 20319-5050

Reference: Construction Site Evaluation

FAX: 475-1199 (Please call Michelle at 475-1880 as soon as this FAX is received. Urgent Priority Mail.)

Dear Ms. Barber:

Based on our discussions yesterday with Mr. Steve Hatch, Major Schroeder and yourself at the National Defense University construction site, I would like to take this opportunity to review with you my understanding of the relevant facts. Also, as a professional courtesy to you, I would like to make suggestions on what I believe is a prudent protocol to follow in this matter.

I understand that two separate samplings of the National Defense University construction site have taken place. These were prompted by your concern over occupational safety issues (i.e. exposure of construction workers to dust containing significant concentrations of toxic heavy metals) and site assessment which is required for regulatory bodies such as the District of Columbia. The first sampling was tested for total metals and the second sampling was tested for EP tox/metals. I concur that this was a practical approach to the site evaluation as I will further explain.

For clarity let me explain the methodologies used to assess building sites such as the National Defense University construction site. To assess the potential for metals found in soils to leach into ground water, a special extraction procedure has been devised for laboratories to simulate the leaching process. This is procedure is known as the "Extraction Procedure for Toxicity" which is more frequently referred to as "EP tox". The leachate from this extraction procedure is then tested for concentrations of metals and/or other chemicals. If significant concentrations of metals are found this may indicate that leaching of metals from the soil is possible and other tests, evaluations, or remediation may be required.

In the case of the National Defense University construction site, the data appear to indicate that the possibility for leaching is not present. By your direction, Washington Analytical Laboratory, Inc. is conducting another series of EP tox/metal testing on 4

samples from the "Burn Pit" area to further verify this finding. Those results will be ready by Friday October 27, 1989.

A second assessment of the soil which can be conducted is the total concentration of metals. This information is important for two reasons. First, it gives some indication of the potential for site, below site, and off site contamination(likely via airbourne dust) from the soil. Secondly, it provides important data to the occupational health and safety specialist or toxicologist to assess the potential exposure of workers and/or off site personnel to hazardous construction dust.

In the case of the National Defense University construction site, the data appear to indicate that significant concentrations of metals are present in the soil from excavations of the burn pits.

I would suggest to you and your colleagues that the concentration of total metals be determined in the 4 samples collected 10/19/89. Not only will this data be important for determination of proper engineering controls during site excavations but may also be important in classifying the material as hazardous or non-hazardous for the purpose of transportation off-site.

These additional tests will require approval from your office for the following amounts:

Item	Unit cost	Total
Total metals (4 samples)	$191.25	$765.00
	Total fees:	$765.00

I hope this review is helpful in your work. Please contact me ASAP so that I can schedule these additional test to insure that the data is available by Friday October 27, 1989.

Sincerely,

R. Hugh Granger, Ph.D.

cc R. K. Simon
P. Chmielinski

Washington Analytical Laboratory, Inc
P.O. Box 2602, Washington, DC 20017
(202) 289-6384 FAX (202) 842-1393

October 27, 1989

Corps of Engineers
ATTN: Edna Barber
Fort McNair, Building 42
Washington, DC 20319-5050

Reference: Tests results for COE

FAX: 475-1199 (Please call Michelle at 475-1880 as soon as this FAX is received. Urgent Priority Mail.)

Dear Ms. Barber:

The testing for total metals and EP TOX extraction/RCRA metals have been completed on the samples collected on 10/19/89. The results FOR TOTAL METALS in **units of mg/kg (ppm)** are as follows:

Sample #	Location	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
895056-1	Three quarters of distance up from bottom of burn pit, west side, from middle of mound.	7	139	ND	21	646	0.4	0.6	ND
895056-2	Three quarters of distance up from bottom of burn pit, northeast corner, of mound.	7	145	ND	22	619	0.3	0.6	ND
895056-3	North edge of dark bank excavation, 30' N of existing elec. manhole under main entrance.	13	1150	2	28	1110	0.3	2.0	ND
895056-4	Spoil from bore hole, near column M-3 & M-4	2	61	ND	15	157	0.3	ND	ND

The results FOR EP TOX METALS in units of mg/L in EP TOX extract are as follows:

Sample #	Location	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
895056-1	Three quarters of distance up from bottom of burn pit, west side, from middle of mound.	ND	0.66	ND	ND	0.74	ND	ND	ND
895056-2	Three quarters of distance up from bottom of burn pit, northeast corner of mound.	ND	0.74	ND	ND	3.44	ND	ND	ND
895056-3	North edge of dark bank excavation, 30' N of existing elec. manhole under main entrance.	ND	0.98	ND	ND	0.50	ND	ND	ND
895056-4	Spoil from bore hole, near column M-3 & M-4.	ND	0.58	ND	ND	0.26	ND	ND	ND

Table of minimum reporting limits for testing (mg/l or mg/kg)

Test	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
EPTOX RCRA metals	0.1	0.01	0.01	0.01	0.05	.001	0.1	0.01
Total metals	1	1	1	5	20	0.2	0.5	2

Table of maximum concentration of metals for characteristic of EP toxicity (mg/l).

	As	Ba	Cd	Cr	Pb	Hg	Se	Ag
Subpart C Characteristic of EP toxicity criteria mg/L	5.0	100	1.0	5.0	5.0	0.2	1.0	5.0

It is my impression from the above data that the results of the EP toxicity extraction and testing for RCRA metals fall below the maximum concentrations acceptable as noted on page 356 of Title 40 - Protection of the Environment, EPA. It should be noted that significant concentrations of lead and barium are present in the excavate from the burn pit area. These data should be reviewed by yourself and/or others persons responsible for worker safety and potential for off-site contamination.

Please contact me if other information is required. The normal laboratory report will follow in a few days.

Sincerely,

R. Hugh Granger, Ph.D.

cc R. K. Simon, Ph.D.

Washington Analytical Laboratory of Virginia, Inc.

4230-A Lafayette Center Drive
Chantilly, Virginia 22021
(703) 631-6868 FAX (703) 968-3912

November 26, 1989

Corps of Engineers
ATTN: Edna Barber
Fort McNair, Building 42
Washington, DC 20319-5050

Reference: Results from Monitoring of the NDU Construction Site for Lead, Barium, Cadmium, and Chromium.

FAX: 475-1199 (Please call Michelle at 475-1880 as soon as this FAX is received. Urgent Priority Mail.)

Dear Ms. Barber:

Please find enclosed the results from 3 days on monitoring of the NDU construction site during pile driving operations. It appears from the elevated personal samples that some workers may be exposed to elevated concentrations of barium during these operations. No significant movement of these metals off site was detected during the monitoring period. You will need to examine these results relative to District of Columbia regulations or criteria.

I hope your holidays were relaxing,

Sincerely,

R. Hugh Granger, Ph.D.

cc R. K. Simon, Ph.D.
P. Chmielinski, MS

Washington Analytical Laboratory of Virginia, Inc.

4230-A Lafayette Center Drive, Chantilly, VA 22021
(703) 631-6868 FAX (703) 968-3912

CLIENT: Corp of Engineers, ATTN: Ms Edna Barber, Building 203, Fort Myer, Arlington, VA 22211-5050

REPORT NUMBER: 895073

Collected by:	Greg Smith	**Date:** 11/17/89	**Analyzed by:**	S.P.Cambron	**Date:** 11/26/89
Delivered by:	Greg Smith	**Date:** 11/17/89	**Reviewed by:**	R.H.Granger, PhD	**Date:** 11/26/89
Received by:	R.H.Granger, PhD	**Date:** 11/21/89	**Reported by:**	R.H.Granger, PhD	**Date:** 11/26/89

JOB ORIGIN: NDU Construction Site

Sample I.D.	Type	Sample Location/Volume	Barium	Cadmium	Chromium	Lead
895073-11	Air	East fence, north of trailers (see attached location for NDU-11). (608 liters)	<0.1 mg/m3	<0.05 mg/m3	**0.2 mg/m3**	<0.05 mg/m3
895073-12	Air	North fence (see attached location for NDU-12). (578 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895073-13	Air	Southwest quadrant of construction site (see attached location for NDU-13). (646 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895073-14	Air	South fence (see attached location for NDU-14). (558 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895073-15	Air	West of trailers #1 and #2 (see attached location for NDU-15). (2850 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895073-16	Air	East of ash pile (see attached location for NDU-016). (603 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895073-17	Air	West wall (see attached location for NDU-017). (563 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895073-18	Air	Personal sample, Foy Lee Osborn, SS# 426-84-6404, Berkel and Company (see attached location for NDU-018). (688 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895073-Blk	Air	Field blank	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3

The current TLV values are: Barium- 0.5 mg/m3; Cadmium-0.05 mg/m3; Chromium-0.5 mg/m3; Lead-0.15 mg/m3.

Robert K. Simon, Ph.D., Laboratory Director

Washington Analytical Laboratory of Virginia, Inc.

4230-A Lafayette Center Drive, Chantilly, VA 22021
(703) 631-6868 FAX (703) 968-3912

CLIENT: Corp of Engineers, ATTN: Ms Edna Barber, Building 203, Fort Myer, Arlington, VA 22211-5050

REPORT NUMBER: 895074

Collected by:	Greg Smith	**Date:** 11/20/89	**Analyzed by:**	S.P.Cambron	**Date:** 11/26/89
Delivered by:	Greg Smith	**Date:** 11/20/89	**Reviewed by:**	R.H.Granger, PhD	**Date:** 11/26/89
Received by:	R.H.Granger, PhD	**Date:** 11/21/89	**Reported by:**	R.H.Granger, PhD	**Date:** 11/26/89

JOB ORIGIN: NDU Construction Site

Sample I.D.	Type	Sample Location/Volume	Barium	Cadmium	Chromium	Lead
895074-1	Air	East fence, south of trailers (see attached location for NDU-01). (583 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-2	Air	East fence, north of trailers (see attached location for NDU-02). (480 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-3	Air	North fence (see attached location for NDU-03). (555 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-4	Air	West brick fence (see attached location for NDU-04). (540 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-5	Air	South fence (see attached location for NDU-05). (540 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-6	Air	West of trailers #1 and #2 (see attached location for NDU-06). (3288 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-7	Air	East of ash pile (see attached location for NDU-07). (595 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-8	Air	Southwest quadrant of construction site (see attached location for NDU-08). (595 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-9	Air	Personal sample, Harold Smith, SS# 579-56-3507, of Berkel and Company (see attached location for NDU-09). (435 liters)	**0.7 mg/m3**	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895074-10	Air	East fence, south of trailers (see attached location for NDU-10). (530 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3

The current TLV values are: Barium- 0.5 mg/m3; Cadmium-0.05 mg/m3; Chromium-0.5 mg/m3; Lead-0.15 mg/m3.

Robert K. Simon, Ph.D., Laboratory Director

Washington Analytical Laboratory of Virginia, Inc.

4230-A Lafayette Center Drive, Chantilly, VA 22021
(703) 631-6868 FAX (703) 968-3912

CLIENT: Corp of Engineers, ATTN: Ms Edna Barber, Building 203, Fort Myer, Arlington, VA 22211-5050

REPORT NUMBER: 895078

Collected by:	Greg Smith	**Date:** 11/21/89	**Analyzed by:**	S.P.Cambron	**Date:** 11/26/89
Delivered by:	Greg Smith	**Date:** 11/21/89	**Reviewed by:**	R.H.Granger, PhD	**Date:** 11/26/89
Received by:	R.H.Granger, PhD	**Date:** 11/21/89	**Reported by:**	R.H.Granger, PhD	**Date:** 11/26/89

JOB ORIGIN: NDU Construction Site

Sample I.D.	Type	Sample Location/Volume	Barium	Cadmium	Chromium	Lead
895078-1	Air	East fence, south of trailers (see attached location for NDU-01). (590 liters)	<0.1 mg/m3	<0.05 mg/m3	**0.4 mg/m3**	<0.05 mg/m3
895078-2	Air	East fence, north of trailers (see attached location for NDU-02). (590 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-3	Air	North fence (see attached location for NDU-03). (583 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-4	Air	West brick fence (see attached location for NDU-04). (595 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-5	Air	South fence (see attached location for NDU-05). (640 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-6	Air	West of trailers #1 and #2 (see attached location for NDU-06). (2900 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-7	Air	Southwest quadrant of construction site (see attached location for NDU-07). (605 liters)	**0.3 mg/m3**	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-8	Air	East of ash pile (see attached location for NDU-08). (663 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-9	Air	Southwest quadrant of construction site (see attached location for NDU-09). (678 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3
895078-10	Air	East fence, south of trailers (see attached location for NDU-10). (713 liters)	<0.1 mg/m3	<0.05 mg/m3	<0.05 mg/m3	<0.05 mg/m3

The current TLV values are: Barium- 0.5 mg/m3; Cadmium-0.05 mg/m3; Chromium-0.5 mg/m3; Lead-0.15 mg/m3.

Robert K. Simon, Ph.D., Laboratory Director

Memorandum for Record

Subject: Oil contaminated Soil Horizon at NDU Construc
Site.

1. Oil contaminated soil was found at 25 to 30 feet below ground level during drilling operations to install pilings.

2. Air pollution readings were taken with the HNu photo-ionization unit with the 11.7 ev lamp. No readings were above 5 ppm.

3. No free petroleum product was observed.

4. No worker health or safety problems were apparent based on the small amount of contaminated soil brought to the surface during drilling.

5. Although, I see no reason to halt work at the site, the environmental concerns need to be discussed with the DC Dept of Regulatory Affairs.

6. Two soil samples were obtained for chemical analysis.

Wayne A Fox, Geologist, USAEH

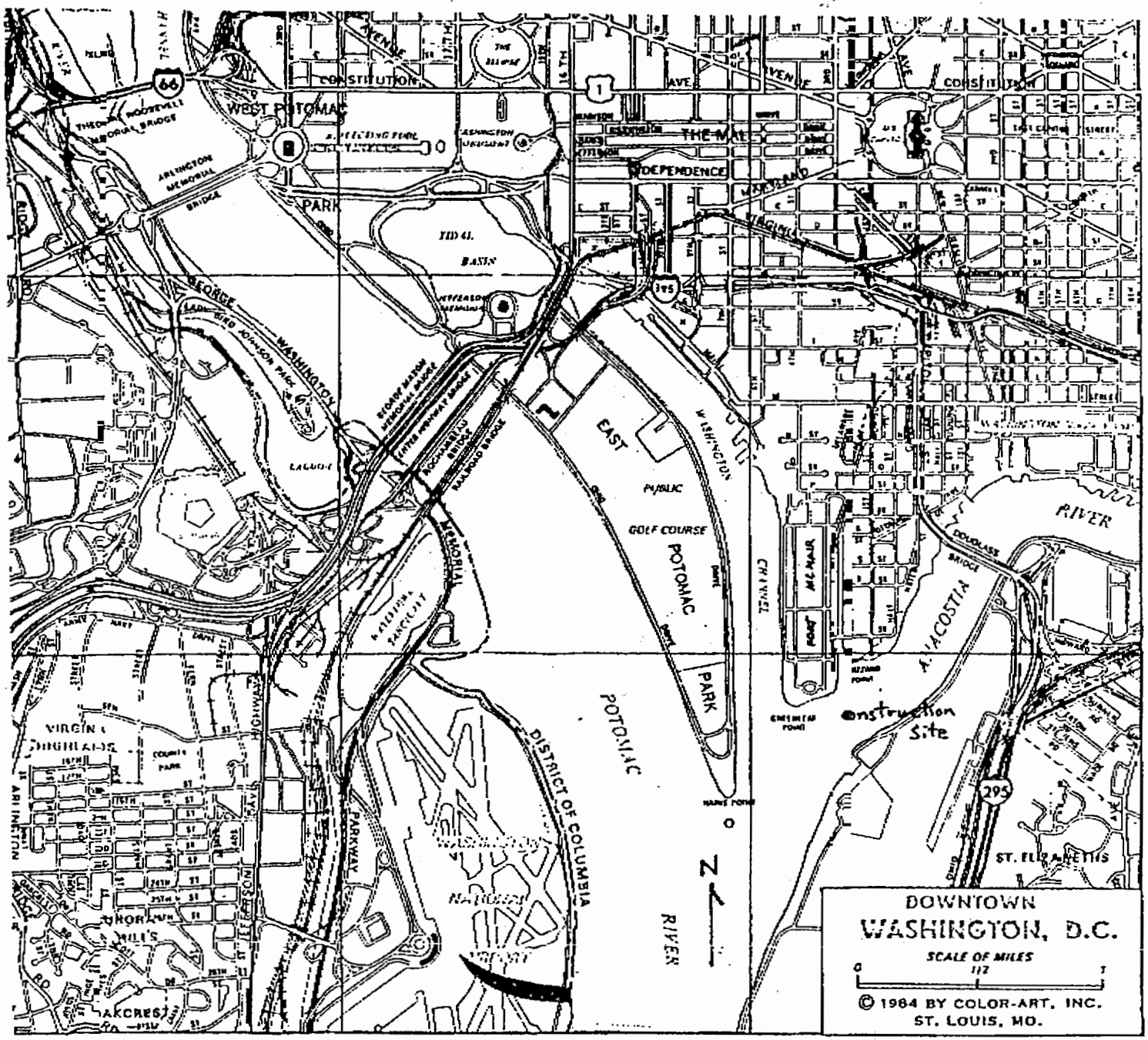

FIGURE 1 NDU Construction Site Location - Fort McNair, DC

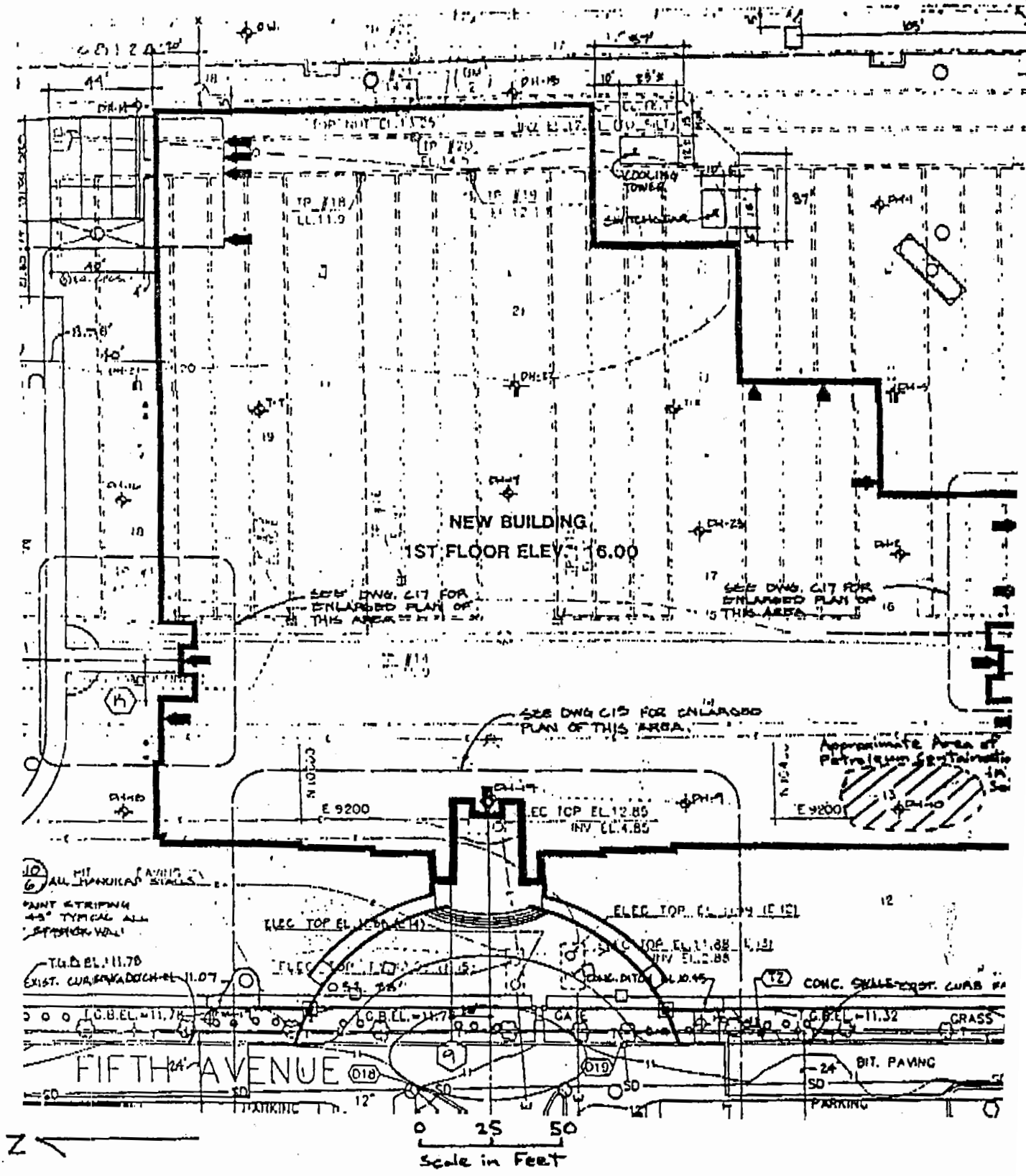

FIGURE 2. Area of Contaminated Soil, NDU Construction Site, Fort McNair.

TABLE

INSTRUMENT PROFILE: HNU PHOTOIONIZER

HAZARD MONITORED:	Organic and inorganic vapors and gases.
APPLICATION:	To determine relative concentrations of air contaminants. Information used to establish level of protection and other control measures such as action levels. It will not detect methane.
COMPONENTS:	Survey probe with ultraviolet lamp (9.5, 10.2, 11.7 eV); needle meter readout; lead-acid gel battery; span potentiometer; range selector; zero control.
DETECTION METHOD:	Photoionization.
OPERATION:	Ultraviolet light photons are generated by the UV lamp and directed at the sample. If the energy of the photons is sufficient it will ionize the molecules of vapor/gas in the sample. The amount of energy necessary to photoionize a molecule is represented by its Ionization Potential (IP). Thus the lamp energy must be equal to or greater than the IP of a compound. Once ionized, the freed electrons are collected at an electrode to generate a current. The greater the current the higher the concentration.
READOUT:	The meter can be read on the following ranges: 0-20, 0-200, 0-2000 ppm (span = 9.8 - benzene equivalent).
CALIBRATION:	The instrument is factory calibrated to benzene. The calibration should be checked before and after use with a calibration check gas. Once calibrated, the span setting can be [illegible] for the instrument.
INHERENT SAFETY:	The HNU Photoionizer can be purchased with the following approvals: Class I Division 1 Groups ABCD; Class I Division 2 Groups ABCD; and non-approved. Be sure to examine the instrument to determine its approval.
LIMITATIONS:	Because the instrument is sensitive to many organic and inorganic vapors/gases it cannot be used as a qualitative instrument in unknown situations. It is strictly quantitative except when the nature of the contamination is known and the instrument has been calibrated to or a calibration curve has been generated for the contaiminant being monitored. High humidity reduces sensitivity. Atmospheres with concentrations of vapors and gases above the detection limits of the instrument will cause inconsistent instrument behavior.
EPA ACTION GUIDES:	None established - depends on toxicity of specific compound being measured.

ENCL 1

DH-10

HOLE COMPLETED 10 AUG 84

TOP OF HOLE EL 12.12

N.D.U. - Ft. McNair
ACADEMIC OPERATION CENTER

GROUNDWATER DATA

While drilling: 15.0'
On completion: 10.0'

Depth	Description
0.0 – 3.0	A mixture of ASPHALT ROCK FRAGMENTS, SILT and BRICKS
3.0 – 10.0	Dk. gray SILT and CINDERS
10.0 – 12.5	Brown mica. sandy clayey SILT (ML) with organic matter
12.5 – 17.0	SILT and CINDERS
17.0 – 22.5	Brown sandy clayey SILT (ML)
22.5 – 27.5	Brown sandy silty CLAY (CL)
27.5 – 37.5	Brown SILT and ORGANIC MATTER
37.5 – 42.0	Brown clayey SAND (SC) & ORGANIC MATTER, with metal
42.0 – 45.0	Brown sandy CLAY w/tr. of organic matter (CL)

Sample depths: 1.2, 5.0, 6.5, 10.0, 11.5, 15.0, 16.5, 20.0, 21.5, 25.0, 26.5, 30.0, 31.5, 35.0, 36.5, 40.0, 41.5, 42.5, 44.0 (0.7)

DRIVE ... OF ... LENGTH

(Cont.)

Depth	Description
45.0 – 52.0	Brown & green sandy silty CLAY (CL)
52.0 – 68.3	Brown silty clayey SAND (SC)
68.3	BOTTOM OF HOLE

Sample depths: 46.5, 47.5, 49.0, 50.0, 51.5, 52.5, 53.5 (0.5), 55.0, 56.5, 57.5, 59.0, 60.0, 61.5, 62.5, 64.0, 65.0, 66.0 50 (0.5), 67.5, 68.3 50 (0.3)

ENCL #